Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.80

Product:	3020571 - Wafix PP Bend 45° BK 125 SN4 S/S
Unit:	1 piece
Manufacturer:	Wavin - PL -Buk - Extra products

Wafix PP is a versatile, uncomplicated solution for your indoor drainage. You can easily install the impact-resistant pipes even in frost. Their excellent chemical resistance makes them ideal for cast-in applications.

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	08-06-2023
End of validity:	08-06-2028
Verifier:	Martijn van Hövell - SGS Search

This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - PL -Buk - Extra products (2020). (☑ = module declared, MND = module not declared).

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
☑	☑	☑	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	☑	☑	☑	☑

Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

Statement of Confidentiality

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	6.35E-1	1.64E-3	1.45E-4	6.36E-1	8.31E-3	8.24E-1	4.28E-3	-4.63E-1	1.01E+0
GWP-f	kg CO2 eq	9.82E-1	1.64E-3	1.46E-4	9.83E-1	8.30E-3	4.44E-1	4.28E-3	-5.24E-1	9.16E-1
GWP-b	kg CO2 eq	-3.48E-1	9.95E-7	-1.54E-6	-3.48E-1	5.04E-6	3.80E-1	3.84E-6	6.16E-2	9.36E-2
GWP-luluc	kg CO2 eq	1.09E-3	5.80E-7	1.49E-7	1.09E-3	2.94E-6	4.61E-5	7.51E-8	-7.26E-4	4.15E-4
ODP	kg CFC11 eq	8.42E-8	3.78E-10	8.26E-12	8.45E-8	1.91E-9	7.45E-9	1.09E-10	-3.64E-8	5.76E-8
AP	mol H+ eq	4.36E-3	9.33E-6	1.47E-6	4.37E-3	4.73E-5	3.16E-4	2.63E-6	-1.72E-3	3.02E-3
EP-fw	kg P eq	2.62E-5	1.35E-8	8.24E-9	2.62E-5	6.83E-8	1.38E-6	3.44E-9	-1.26E-5	1.50E-5
EP-m	kg N eq	8.13E-4	3.34E-6	1.55E-7	8.16E-4	1.69E-5	9.92E-5	2.41E-6	-3.60E-4	5.75E-4
EP-T	mol N eq	8.92E-3	3.68E-5	1.85E-6	8.96E-3	1.86E-4	1.09E-3	1.06E-5	-4.09E-3	6.15E-3
POCP	kg NMVOC eq	3.64E-3	1.05E-5	6.28E-7	3.65E-3	5.33E-5	3.31E-4	3.96E-6	-1.57E-3	2.47E-3
ADP-mm	kg Sb eq	8.97E-5	4.24E-8	1.97E-8	8.98E-5	2.15E-7	1.16E-6	2.63E-9	-6.17E-6	8.50E-5
ADP-f	MJ	2.93E+1	2.52E-2	1.36E-3	2.93E+1	1.27E-1	8.62E-1	7.99E-3	-1.38E+1	1.65E+1
WDP	m3 depriv.	5.95E-1	7.72E-5	5.22E-5	5.96E-1	3.91E-4	1.74E-2	4.03E-5	-3.12E-1	3.02E-1
PM	disease inc.	4.94E-8	1.48E-10	9.08E-12	4.95E-8	7.49E-10	4.74E-9	5.48E-11	-2.18E-8	3.33E-8
IR	kBq U-235 eq	3.66E-2	1.10E-4	1.02E-6	3.67E-2	5.57E-4	2.75E-3	3.74E-5	-1.27E-2	2.74E-2
ETP-fw	CTUe	2.04E+1	2.04E-2	1.21E-2	2.04E+1	1.03E-1	1.33E+0	8.82E-3	-8.49E+0	1.34E+1
HTP-c	CTUh	6.17E-10	7.27E-13	6.17E-13	6.18E-10	3.68E-12	1.21E-10	1.99E-13	-2.33E-10	5.10E-10
HTP-nc	CTUh	1.20E-8	2.43E-11	1.57E-11	1.20E-8	1.23E-10	1.56E-9	4.83E-12	-3.23E-9	1.05E-8
SQP	Pt	3.42E+1	2.15E-2	2.24E-3	3.42E+1	1.09E-1	6.63E-1	2.05E-2	-3.72E+1	-2.17E+0
Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	8.55E+0	3.61E-4	2.40E-2	8.57E+0	1.83E-3	4.07E-2	3.22E-4	-6.07E+0	2.55E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	8.55E+0	3.61E-4	2.40E-2	8.57E+0	1.83E-3	4.07E-2	3.22E-4	-6.07E+0	2.55E+0
PENRE	MJ	3.14E+1	2.67E-2	1.44E-3	3.14E+1	1.35E-1	9.19E-1	8.48E-3	-1.49E+1	1.75E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	3.14E+1	2.67E-2	1.44E-3	3.14E+1	1.35E-1	9.19E-1	8.48E-3	-1.49E+1	1.75E+1
PET	MJ	3.99E+1	2.71E-2	2.55E-2	4.00E+1	1.37E-1	9.59E-1	8.80E-3	-2.10E+1	2.01E+1
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	1.16E-2	2.85E-6	1.46E-6	1.16E-2	1.44E-5	7.18E-4	9.87E-6	-6.06E-3	6.25E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	1.09E-5	6.43E-8	2.73E-13	1.10E-5	3.26E-7	1.63E-6	9.61E-9	-7.86E-6	5.06E-6
NHWD	kg	7.82E-2	1.56E-3	1.05E-6	7.97E-2	7.90E-3	4.64E-2	3.51E-2	-2.96E-2	1.40E-1
RWD	kg	4.27E-5	1.71E-7	1.10E-13	4.29E-5	8.66E-7	3.56E-6	5.23E-8	-1.28E-5	3.45E-5
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0

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